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THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

VOL. VIII. NO. 33. CLEVELAND, O., AUGUST 19, 1886. $2.00 PER ANNUM SINGLE COPIES 5 CENTS

AROUND THE LAKES.

CLEVELAND.

B. Whitaker vessel owner and broker of Detroit is spending a week in the city.

The excursion steamer Pearl, Captain Edwards, is enjoying good patronage.

Mr. Simon Langell, shipbuilder, of St. Clair, Mich., was in the city last week.

W. & J. Miller, boiler makers, are building a marine boiler for the steamer Dispatch of Florida.

Mr. H. B. Coffinberry and family will enjoy a trip to Marquette on the steamer J.H. Devereux.

Fred Palmer, who has been on a tour of pleasure to Marquette, has returned and settled down to business in a masterly manner.

Edgar H. Hobart has been appointed to the vacancy in the life saving crew caused by the discharge of serfman No. 6 Mr. Hobart will make a valuable addition to the crew.

Webster Roberts, son-in-law of Captain D. M. Becker of the schooner Negaunee, was killed by the falling of an elevator on Saturday. The funeral took place from his residence in Bridge street Tuesday.

In order to better facilitate the handling of cargoes, it has been decided to add twelve feet to the iron steamer under way at the Globe shipyard. This will give her 288 feet keel. She will have eight hatches spaced twenty-four feet from centers.

The propeller Onoko, on her last trip to Duluth, loaded 90,000 bushels of wheat in two hours and twenty minutes. The Onoko left Cleveland at 10:30 on the 4th inst. and arrived at Duluth at 7:30 on the 8th. Returning, she left Duluth at 11 same day and arrived at Buffalo at 6 on the 13th.

The barge M. R. Warner was in Globe drydock to have leaks stopped and buts calked. Tug Niagara was in to have a new stern pipe put in. Steamer Fred Kelley to have leaks stopped and buts calked. The schooner A. Boody will go in to-day to have damages, incurred by her recent mishap, repaired.

Charters reported are: Schooner Selkirk, ore, Escanaba to Cleveland, $1.15; schooners Porter, G. G. Houghton, Itasca and John B. Merrill, ore, Escanaba to Ohio ports $1.10; schooner J. S. Richards, coal, Cleveland to Escanaba, 50 cents; schooner Colonel Cook, coal, Sandusky to Marquette, 50 cents; schooner Smith and Post, coal, Cleveland to Port Huron, 30 cents. It is rumored that the Swaine and Helvetia get $1.50 from Ashland.

By special request of numerous prominent citizens, the Detroit & Cleveland Steam Navigation Company, have concluded to run their elegant steamer City of Cleveland, from Cleveland to Put-in-Bay once more this season. The date decided upon is Thursday, August 26th. Steamer will leave company's, wharf, No 23 River street, at 9 a. m., giving 2½ hours at the Island, returning, arrive at Cleveland 7:30 p. m. This excursion will be exclusively under the management of the Detroit & Cleveland Steam Navigation Company, and no pains will be spared to make it the most enjoyable occasion of the season. Parties desiring to visit the bay will undoubtedly avail themselves of this opportunity, it being probably the last trip which this elegant steamer will make to that point this season.

ORE and coal freights are still advancing and grain shows an advance of ¼c over the rate ruling at this time last week, with tonnage in demand. At Toledo and Sandusky tonnage is scarce and brokers from those ports have come into the Cleveland market for vessels. On ore from Escanaba to Ohio ports the rate has been made 1.15 and two charters from Ashland have been reported at $1.50.

CHICAGO.

Special to the Marine Record.

Mr. John Homegardner, of Sandusky, owner of the barge Iesman, Captain Reynolds, was in this city on business Tuesday.

Mr. George Presley, of the Globe drydock, Cleveland, is visiting his daughter at Hyde Park, and his friends in this city. He was present at the launch of the propeller Vernon on Monday.

The tug John Gordon arrived Monday with her tow the barges Wyandotte and Iscman, and scow Gray Oak from Drummond's Island with cedar posts and ties. Considerable time was consumed in getting the tow loaded, but the Gordon did excellent work on their trip, although she had to contend with contrary winds and heavy seas.

At Miller Brothers' shipyard the schooner Ebenezer was in the drydock for some new plank in her bottom and calking; schooner Camanche for a new stem; the schooners Anne O. Hansen, E. M. Stanton, Marion W. Page and Lookout to have leaks stopped; the steambarge Robert Holland for a new wheel; the steamboat Lucille to have her stern bearing fixed; one of Watkins & Perkins' scows for calking; the tug Bob Teed was at the derrick for repairs to her shoe; the schooner Jason Parker received a new windlass; the schooner City of Chicago a new rudder stock; the schooner Adventure a new cathead; the schooner Australia considerable calking.

At the Chicago Drydock Company's yard the schooner Duncan City was in to have a leak stopped; she also received a new main mast; the schooner Mysostis, tug Mentor and one of Fitzsimmons & Connell's scows were in dock for calking; the steambarge Argonaut received a new main boom and gaff; the steambarge Monitor a new mast; the steambarges C. H. Starke and Worthington received new fenders; the schooner John Mee a new cathead and anchor stock and some new rail; the propeller John Pridgeon, Jr., some calking; the schooner H. B. Moore a new anchor stock.

Chicago was visited by a terrific thunder and rain storm, accompanied by a heavy squall, between 3 a. m. and 5 a. m., on Monday, but fortunately not much damage was done to our shipping, either in port or outside, the schooner Camanche being the principal sufferer. She was on her way to this port from Milwaukee, light, and when off the marine hospital, about 3 a. m. she was taken in tow by a tug. When nearing the water works crib they were struck by a very heavy squall accompanied by blinding rain from the N.N.W. As they were approaching the government breakwater, the tug let go the schooner's line and ran for safety, leaving the schooner to the mercy of the gale, and the schooner went stem on to the breakwater, damaging her stem badly and some of her head gear. The tug Robert Tarrant, which was lying inside the breakwater, went to her assistance as soon as possible, and after considerable difficulty took her line and towed her into port.

Members of the sailors' union held a meeting on Tuesday evening and decided to have wages advanced to $2.00 per day out of this port.

Freights to Buffalo on Tuesday were firm at 3¼ cents for wheat, 3 cents for corn; 5⅜ cents was obtained to Ogdensburg, which is an advance on last week's quotations. Offers of $1.15 were made to convey iron ore from Escanaba to Erie; $1.10 was obtained to Ashtabula. Lumber freights are more active and an advance is looked for soon.

A pool is being made up in Chicago for the purpose of building this winter an iron propeller, capable of carrying 2,400 tons of freight, or 75,000 bushels of wheat, to be ready for next season. The cost is to be in the neighborhood of $80,000. One of the prime movers in the enterprise has gone to Cleveland in the interest of the syndicate

The new steamship Charlemagne Tower Jr., of the Wilson line arrived at this port for the first time on Thursday last. Vessel men pronounce her a splended ship, well worthy to keep up the reputation of the fine list of steamships owned by the Wilson line. She brought along 1,800 tons of iron ore from Two Harbors, Lake Superior, consigned to the Union steel works, and when going up the river she went hard aground in the draw of the Alton railroad bridge, two tugs tried for several hours to release her but without avail and several other tugs had to pull on her before she could be got off the bottom.

A. Booth & Sons' fine new steamer Vernon was launched at the foot of Sixteenth street Monday at 12:30 p. m. It was a very successful launch, and great credit is due to her builder, Mr. J. P. Smith, Jr., for making such a complete success both of the building of a splendid steamer and launching her. Captain C. J. Bussey will command her, James Carr will be mate, G. N. Miner, who had the honor of christening her, will be clerk. She will cost complete nearly $50,000. She is 177 feet over all; length of keel 163 feet; breadth of beam 25 feet 8 inches; depth of hold amidship hatch, from main deck to sister keelsons, 10 feet. Between decks she is 128 feet long. She is built of Kentucky white oak, cedar, and southern pine, all sawed to dimensions. She has a drag line of 3 feet 6 inches. At her midship frame she is 8 inch convex from the garboard strake to her bilge. Her net register tonnage is 560.41. She has two steel boilers 16 feet long and 6½ feet in diameter, making 2,400 feet of heating surface. The boilers are of the water bottom Scotch pattern, and set on a corrugated foundation, so that the bottom can be kept oiled or greased to prevent rusting. They were built under government inspection and are warranted a continuous pressure of 125 pounds to the square inch. Her engines are of a very heavy pattern. The high pressure is 22 inches and the low pressure 40 inches with a 24-inch stroke. They are designed to make 175 revolutions a minute. The shaft is the best hammered iron 10 inches in diameter. She has an iron stern post 5 inches in diameter, connected with a heavy shoe at the wheel and with the fantail, thus giving great support to the rudder. The rudder post is 5½ inches in diameter, resting on the main deck, and running on rollers of the latest pattern. Her wheel, of the Delamater pattern, is 9 feet in diameter, with a 13-feet lead. Her steam hoisting gear on the main deck, American Ship Windlass Company's capstan windlass, chain stopper, and iron bits are all of the latest improved patterns. In addition to carrying fish she will be run as a regular freight and passenger boat on the Chicago and Manistique route, touching at intermediate ports and the numerous islands at the foot of the lake. Her cabins will be furnished handsomely. She will have twenty-two state rooms in the main cabin and accommodations for one hundred passengers. She is guaranteed to average not less than fifteen miles an hour, and her builder is confident that she will steam at least eighteen miles under pressure.

WILLIAMS.

BUFFALO.

E. Suckow, inventor of the Suckow marine jack for wrecking purposes, has been dispatched to Colon, Central America, by Hardwicke & Ware of Buffalo who have contracted to float two vessels which are now aground at that point.

The schooner J. D. Sawyer, which had been ashore in the straits, arrived Monday evening with grain from Chicago. She was leaking on the way down, but her pumps kept her free.

The schooner A. Boody, ore laden from Escanaba for Cleveland, which sank in shoal water at the Beavers, was pumped up by the tug M. Swain. The underwriters have given her permission to tow to Detroit with a steam pump aboard, and if then safe to go on to Cleveland.

The Tifft farm docks are getting a good part of the lumber that is coming in. The farm develops business slowly, but promises to get there in the end.

The propeller Spokane, now in port, had a costly stranding at Point aux Pins, above the Sault. Some passenger steamers pulled her off, for which service they ask $1.050.

The Bay City & Cleveland Transportation Company have sold the barge B. W. Jenness to O. W. Blodgett of Detroit for $5,000.

A St. Ignace, Mich., dispatch says: "The Canadian steamer Frances Smith was seized at Mackinaw Island for violating the customs laws."

The Buffalo Express has the following budget of news:

Superintendent Dobbins, whose valuable additions to the life saving apparatus have won him well earned distinction, is engaged on an improvement to the metallic life car which no doubt will come into general favor. He has not been at all satisfied with the behavior of the car, especially as it has a way of floating bottom up that is not at all to the comfort of its load. He has therefore obtained leave of the Government to remodel to some extent the car in use at this station. It is now at the shop of J. C. Austin, near the foot of Main Street, receiving a new water bottom. With this easy way of taking ballast the car will right itself as quickly as a life boat and remain upright. In case the car should be stove or leak in any way, a rotary pump is to be rigged inside so that by turning the crank in one direction it bails the car and by turning it in the opposite direction it pumps in a supply of air. An arrangement for shipping an attendant in the car is to be made so that he can, if needed, be partly outside of it and give directions as to the use of the pump. Superintendent Dobbins has always thought the car, weighing, as it does, nearly 1,000 pounds and having capacity for about that weight of people, ought to float rather than be swung from a wreck to the shore, and he is working out that idea. The rescue when necessary to be made through the air can be done by means of the breeches buoy. In a week or two the car will be finished, when a test will be made in the outer harbor.

The excitement over the late navigations of the Whirlpool Rapids has given rise to a story that Superintendent Dobbins was also taken with the craze, and there have been many visitors at Austin's to inquire if the car was really going to be sent down the Niagara.

Coal freights were quite and steady. Engagements were propellers Vanderbilt, Oceanica, and Nevada, for Chicago at 70c; Colorado, for Green Bay, 70c; schooners John Jewett, and M. P. Barkalow, for Sandusky, at 20c.

Canal freights closed a full cent higher on wheat to New York. Boats were still in inadequate supply. A few shipments were made at 5¼@5½c, and 6c. A little corn was taken at 5@5¼c.

There has been some delay in unloading grain vessels. The railraad elevators are about filled up, and consignees do not like to put their grain in houses having water connection only. The scarcity of canal boats has aggravated the matter.

Fred Chalcraft, mate of the propeller Rochester, has been assigned to command the Starucca until Captain Fletcher recovers from an attack of illness.

The steamer J. B. Lyon was docked at the Mills yard for a new wheel and calking.

The schooner J. D. Sawyer went into dock at the Union yard Wednesday afternoon to have her bottom examined.

Palmer, Johnson, and others, of Cleveland are negotiating for the Nevada.

MARITIME LAW.

SALVAGE—LIGHTER MOORED NEAR OIL WORKS—FIRE ON SHORE—LIGHTER TOWED TO PLACE OF SAFETY.

U. S. District Court, Southern District of New York.

The lighter Oregon, loaded with naptha, was lying in Bushwick Creek, moored hear Pratt's Oil Works, when fire broke out in the building on shore. The Oregon, with two other lighters loaded with oil, was taken out of the creek to a place of safety by libelant's tug boat, the Alpha, and for this service salvage was claimed. The value of the lighters and their cargoes was $4500. Held, that the service was a salvage service, but under the circumstances, not one of a high degree of merit, and for it $200 was a fair compensation.

Brown, J.

During the forenoon of the 14th of November, 1884, a fire broke out on the premises of the Pratt Manufacturing Company's Oil Works, in a shed on the south side of Bushwick Creek. The shed was about 100 feet long by 45 feet deep, inclosed by a brick fire wall about 20 feet high. When the fire broke out, the lighter Oregon lay outside of a canal boat which was moored alongside of the shed and within 3 feet of it. The canal boat and lighter were immediately removed some what farther up the creek; the lighter about 75 feet above the shed and the canal boat some two or three hundred feet farther. The premises in the vicinity of the shed were employed in the oil business, and there were various tanks in different parts of the grounds not far distant. The general orders of the Standard Oil Company, who control the whole premises, were that whenever a fire occurred along the creek, the creek should be cleared of boats.

The libelant's boat Alpha was towing a schooner down Newtown Creek, when observing the fire, the pilot dropped the schooner at the mouth of the creek, and went down to the Bushwick Creek not far below; when he arrived there, he was hailed by the assistant foreman of the premises to come into the creek and tow out the lighters. The Alpha accordingly went into the creek and succeeded in towing out the three lighters in a line upon a hawser. The Oregon had naptha aboard, the other two lighters refined oil. For this service a salvage award is claimed.

Two questions are here presented; first, whether the service is entitled to salvage compensation; and, it so, the amount.

The rescue of property in danger of destruction by fire is a familiar ground of salvage award, where the essential elements of a salvage service exist. (The Connemara, 108 U. S. 352.) Such cases have frequently arisen in this court. (The Tampico, 16 Fed. Rep. 491; the Baker, 23 Fed. Rep. 109; S. C. 25 Fed. Rep. 771.) As respects the degree of danger it is not necessary that there should be a certainty of loss unless the service were rendered. It is sufficient that there is a reasonable apprehension of danger, and that the service is rendered in reference to that fact, and not in the ordinary course of business. (The Raikes, 1 Hagg. 247; the Jos. C. Briggs, 1 Ben. 81; the Plymouth Roca 9 Fed. Rep. 413 416.)

There can be no doubt that the Alpha was not employed in the ordinary course of business nor that the service was rendered as a rescue from danger of fire. The superintendent indeed, testifies that he did not regard the Oregon as in any position of danger but altogether safe; that she might have been moved further up the creek, if necessary; and that the request to tow her out was on account of the standing orders to clear the creek in case of fire. But I cannot doubt that this standing order was in part on account of the danger that any vessels in the creek might be in, as well as to furnish additional room for fire boats that might be wanted to protect from loss other parts of the premises. A fire in one place might spread to others. The combustible materials all about the grounds were such as to favor the spread of fire; and it could never be certain until the fire was checked how far it might be communicated. The service desired of the Alpha in this case was under the pressure of this reasonable necessity; and because the respondents own boat, the Niagara, which had been expected, did not make her appearance, and the removal of the boats from the creek could not be properly delayed longer under the standing orders mentioned. The fire was already under full headway. Of the many other tugs in the vicinity none but the Alpha was of sufficiently light draught to go upon the opposite side of the creek, somewhat away from the fire, and astern of the fire boats, which took up a considerable portion of it. Under the circumstances the service is of a salvage character, and not a mere towing service. The Oregon undoubtedly was not moved, as far away from the fire as she might have been moved, but that no doubt was because it was expected that she would be taken out of the creek very speedily.

There is much contradiction between the witnesses as to the amount of exposure of the Alpha to the fire. On the libelant's part the testimony is that her deck hands were considerably employed in throwing water upon her house; that the glass of her sky lights was broken by the heat, and that the neck, face and hands of two of the persons thus engaged were burned and blistered, and that the paint of the boat was also injured, her position being for some time opposite to the fire. The disinterested witnesses on the opposite bank testify to this effect. Several of the respondents witnesses say that the Alpha lay lower down in the creek, astern of the two fire boats, which lay partly athwart the creek and that the fire boats were between the Alpha and the fire. These discrepancies would in the main be reconciled if the Alpha, after first going opposite to the fire and throwing out her lines, had then dropped back astern of the fire boats and such may have been the fact, the libelants witnesses, testifying as to the former position, and the respondents, as to the latter.

The services in this case, however are not of any high degree of merit, considered as salvage services. Though the Oregon had naphtha aboard, she was at such a distance from the fire, and the service was so soon after the fire broke out in the shed within the walls, that I cannot regard the service as one involving much personal danger, although that element is not wholly out of the case. In other respects, the service was not one of any special difficulty, or labor, or risk. The damage to the Alpha was slight. Her painting was not repaired until a year afterwards, and then at a slight cost, and this libel was not filed until some five months after the service. The value of the three lighters towed out with their cargoes was about $4500. I think $200 will be a fair compensation; one-half to be paid to the tug, the other half to the captain and crew in proportion to their wages.

May 4, 1886.

THE HOSPITAL TAX.

WASHINGTON, D. C., August 1.

Special Correspondence to the Marine Record.

Before I left New York a letter was handed me from the master of the refunding society, which, in addition to a small remittance contained this gentle reminder:

"In your work, as representative of the society, before the committee on claims, to whom our affairs have been referred, bear in mind that you must put the brightest side of your shield upon the outside, and that you must be lavish with your money (treating the senators you know), even though you deny yourself some of the comforts. * * * Register at the best hotel (even though you are only able to stay one day and have to jump the town), in fact, let every move be an indication that you represent a well organized, truly disciplined and powerful body of navigators. * * * Be sure and see James A. Dumont, the supervising inspector general, and Jarvis Patten, the commissioner of navigation, and do not stare at them in wonder, remembering that they are appointees of the dead party; but admire them for the power they possess, that of making their services so valuable that it obscures the fact that they are Republicans."

Landing in Washington, I, with the other great men, registered at the Williards, and I told the clerk who I was, and intimated that I would expand myself before the august committee on claims in a few days. A tall, greyish-looking fellow stood at my right, a person with a seedy dress coat, and, looking askance at me, furtively asked:

"You, ah, intend to appear before the committee?"

"Yes," I responded, hurriedly, "I appear before the committee on claims to-morrow."

"Well, if you think it will facilitate matters any, I'll introduce you to the chairman of that committee, Judge Fillup, senator from Maine?"

I thanked the gentleman, and was at once introduced to the chairman, an angular looking chap, whom I considered extremely young to be at the front of so important a committee. However, I gave him a drink, and incidentally told him all about my mission, and was introduced in turn to several other members of the committee, among whom were the Hons. John Takeanother, from Missouri, Wm. Drinkall, from Kansas, Sam'l Setemup, from Kentucky, and T. O. Fullglass, from Georgia, gentlemen who seemed very earnest in their attentions to me and anxious that the navigators of the country should be justly dealt with in the matter of getting the hospital tax refunded.

"The committee meets in chambers at 1614 F street, to-morrow afternoon at 3 o'clock, gentlemen," said the urbane chairman, as we broke up for the night, after I had spent six dollars for drinks.

General Dumont received me kindly and I found him a gentleman somewhat advanced in life, tall in stature, muscular in frame, and with a smiling face; a man you would take for either a doctor or a lawyer. Courteous without affectation, dignified without effort, intellectual without pedantry, I found him, indeed, a truly delighttul companion.

Jarvis Patten, commissioner of navigation, is a gentleman of somewhat opposite style, a slender person, about fifty years of age, whom you would take for a well-to-do business man. An old navigator, learned in the details of seafaring life, he has, by his knowledge and energy, made the office of commissioner of navigation one of intellectual research, adding largely to the interests of navigation thereby.

At the appointed time the committee on claims met, and I must confess that I was not impressed with the dignity of the committee or the intellectual standing of its members.

"Get a basket of champagne," said the chairman to a servant.

"Get two baskets," said I, as I planked down my last dollar.

The chairman, after several bottles had been consumed by the five members of the committee, asked me to state my claim, which I did, in as eloquent terms as possible, telling him how we had paid hospital tax for years, and how we had never been sick, and——"

"What! Never been sick?" asked the chairman.

"No, sir," I responded, and that is why we——"

"Will the honorable gentlemen of this committee drink the health of the man who was never sick?" To which several more bottles responded by yielding up their sparkling contents.

At this stage in the conference an argument sprang up, in which the chairman accused some of the other members of drinking more than their share of the wine, and the argument ripened into a rough and tumble fight which was concluded by the police breaking in the door and arresting the combatants. I told the police my story, and they let me go, but the papers the next morning, in speaking of the affair, headed its article with "A Sucker Sold," and then told how the Washington dead-beats got me in their power.

THE SECOND ENGINEER.

METALLIC PACKING.

ESCANABA, MICH., August, 12.

To the Editor of the Marine Record.

There is probably no part of a steam engine more frequently out of order or gives greater annoyance to the engineer than the piston-rod and valve-stem packing, consequently there are a great variety of packing in the market, such as hemp, jute, soapstone, asbestor and many others, none of which could any reliance be placed upon until the invention of the Katzenstein metallic packing. This packing does not only dispense with the annoyance of leaky piston rods and valve stems, but is productive of economical results to the steam engine owner. Since applying the Katzenstein packing to the high press piston rod of the steamer Devereux, the engine has made up to date 5,305,156 revolutions, at a piston speed of 492 feet per minute, under an initial pressure of from 95 to 100 pounds on the inch, the packing showing no signs of wear.

The piston rod runs steam and air tight, with no lubricants required other than that which is forced into the cylinders for the purpose of lubricating the internal parts of the engine. I have not known the temperature of the rod being higher than that due to the pressure. Therefore, I feel safe in saying the Katzenstein packing produces less friction than any of the above named packings, all of which I have used.

QUINCY MILLER, Engineer,
Steamer J. H. Devereux.

FIREMEN.

There are probably few callings deserving of so much attention, but yet so neglected as that of a fireman for a steam-boiler. The impression is that any able-bodied man, young or old, can fire a steam-boiler, and it is often more a question of wages than of age or experience. So far as the opinions of the writer go, firing needs as much study, practice, and investigation, as some trades. In fact, there are several trades where not half as much knowledge and education are required, with reference to natural laws, as in firing. In older countries the subject has received considerable attention, and it is as difficult to get a position as fireman as it is that of an engineer. The applicant must answer a number of questions, and furnish satisfactory references as to his experience, ability and knowledge of firing generally, including a knowledge of steam boilers, different kinds of coal, treatment of a steam-boiler, careful firing, so as to make as little smoke as possible; this last is considered equally as important there as here.

The question of wages is not the first in consideration of the value of a good fireman, so long as he has had experience and can be trusted. Of course, all engineers are aware that a good fireman can save more coal in a day than his wages would pay for, and also, that an intelligent fireman is generally acknowledged to be the best smoke-burner on the market. Outside of the fact of wasting fuel, there are a number of things that are dependent on the fireman's ability. Prominent among them is the care that he gives to his boiler; he should give close attention to the gauges, know when they are working correctly, and keep them clean and in good order; he should maintain a steady pressure of steam throughout the day, and feed just as fast as the water is evaporated from the boiler, and no faster. The temperature of the furnace should be maintained as regular as the steam pressure and the water level. He should also be more or less familiar with the gaseous nature of the coal he is using, so that he can fire accordingly; he should also be conversant with the scale-forming properties in the water, and know also how to remove it with the least injury to the boiler, and he should know how to prevent scale-forming by means of blowing down periodically, either from the blow-off pipe or from the surface blow. The fireman should also have enough interest in his situation and his employer to clean the boiler frequently and keep the gaskets in good order, so that man-hole plates can be tightened up with a 12-inch instead of a 12-foot wrench. Banking fires properly, regulating draft, cleaning fires, and the manipulation of them to insure good combustion and a long life to the fire walls and grate bars, keeping the masonry around the boiler clean, inside and out, grinding valves in connection with the boiler, are the duties of a fireman, and to perform them well he must be a capable and intelligent man.—*Mechanical Engineer.*

NAUTICAL NOTES.

A raft of 2,000,000 feet of logs was run over the Rapids by tug Andrew J. Smith. The raft is consigned to Hall & Buell Mills, Manistique, Lake Michigan.

The propeller M. M. Drake got aground in getting out of the harbor at Toledo on Friday, but was released, and is reported among the arrivals at Buffalo.

The total ore shipment via the lakes for the fiscal year ending August 4 was 1,672,231 tons, a gain of 170,000 tons over the corresponding period the previous year.

From Green Bay, Wis., come reports that the damage done by the forest fires is

OFFICIAL NUMBERS AND SIGNAL LETTERS.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION, WASHINGTON, August 9, 1886

To the Editor of the Marine Record:

Following is a list of merchant vessels of the United States to which official numbers and signal letters were assigned by the Bureau of Navigation, Treasury Department, during the week ended Aug. 7, 1886:

Official Number.	Signal Letters.	Rig.	Name of Vessel.	Tonnage. Gross.	Net.	Home Port.
			SAIL VESSELS.			
106,432	....	Sl.	Arrow,	8.25	7.84	Pensaeola, Fla.
106,433	K D L W	Sl. yt.	Ariadne,	17.82	16 93	New York, N. Y.
104,434	....	Sl.	Annie May,	12.49	11.87	Eastport Me.
126,375	... .	Sl.	Crescent,	12.18	11 58	New York, N. Y.
135,893	....	Sc.	E. Hampstead,	19.76	18 77	Pensacola, Fla.
76,639	.. ..	Sl.	J. L. Thomas,	8 29	7.88	Philadelphia, Pa.
76,640	K D L V	Sc.	Jennie S.,	185 28	176 02	Boston, Mass.
91.856	....	Sl.	Mattie Lee,	7.00	6 74	Cnancork, Va.
116.113	.....	Sl.	Sparkle,	10 72	10 10	New York, N. Y.
81,124	....	Sc.	Wilbur E. Pestles,	47.79	45 40	Wilmington, Del.
			STEAM VESSELS.			
126,372	.....	St. s.	Carrie H. Scriven,	25 84	12 92	Buffalo, N. Y.
126,373	.....	St. p.	Coronado,	308.54	222 26	San Diego, Cal.
126,374	.....	St. s.	C. A. Dickey.	18 50	9.25	Buffalo, N. Y.
126,376	K D M O	St. s.	City of Bridgeport,	518.27	274.02	Bridgeport, Conn.
135,894	....	St. s.	Evelyn,	48 99	27.79	Albana, N. Y.
95,885	....	St s.	H. A. Root,	198 12	161 93	Saugatuck, Mich.
76,641	....	St. s.	Jessie.	24.51	12.90	Rochester, N. Y.
91,857	.....	St. s.	Marinette.	61 33	30.67	Marine te, Wis.
91,858	.....	St p.	Maggie Belle,	52 81	52.81	Louisville, Ky.
161.556	.....	St. yt.	Viking.	13 80	6 90	Portland, Me.
			UNRIGG'D VESSELS.			
21,480	....	Barge.	Burt,	89 00	89 00	Galena, Ill.
56,565	....	Barge.	Rose,	81 38	77.32	New York, N. Y.
56.566	.....	Barge.	Rosalind,	....	5.05	Quincy, Ill.

JARVIS PATTEN, Commissioner of Navigation

greater than was at first stated. Whole counties have been burned over, and the flames only die out when there is nothing more to feed on.

A dispatch from Ashtabula said: "The yacht Marietta, owned by Mr. George Gardner and others, Cleveland gentlemen, is expected here with a party of prominent Cleveland men on board."

At a meeting of the Merchants' Exchange President Wright was employed to appoint a committee to attend the Canal Convention to be held at Syracuse August 25. Mayor Becker is to appoint a committee of Buffalo citizens for the same purpose.

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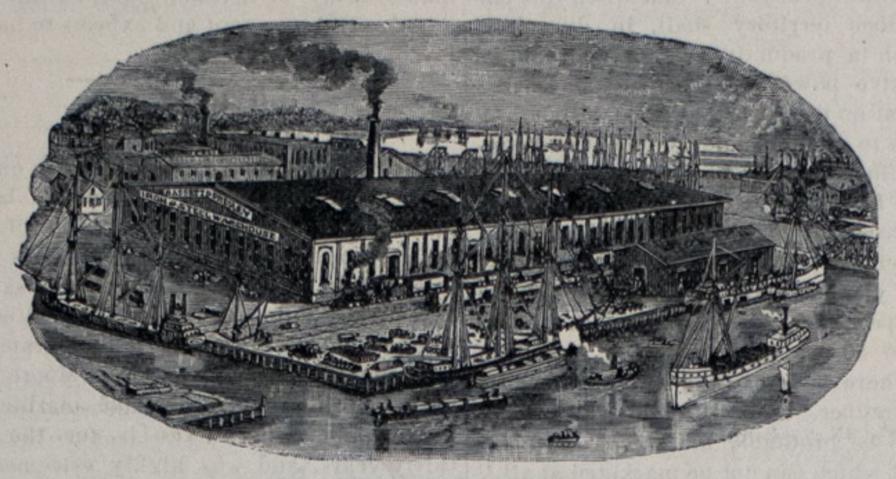

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Eastward.	Arrive	Depart.
No 4. Fast Limited Express.....	*2 55 A M	*3 05 A M
No 8, N Y, B & A Express.....	*8 25 A M	*8 50 A M
No 26, Elyria Accommodation.....	†7 45 A M	.....
No 24, Buffalo Ac'm via Sandusky	†10 30 A M	†10 45 A M
No 24, Toledo Accom via Norwalk	†10 30 A M	†10 45 A M
No. 10, New York & Boston Ex..	*11 40 A M	*12 noon
No 12, N Y & B Fast Express.....	*2 10 P M	*2 45 P M
No 2, Night Ex via Norwalk.....	9 40 P M	†10 00 P M
No 22, Night Ex via Sandusky...	†9 40 P M	.....
No 26, Conneaut Accommodation	†4 25 P M	.....
Westward.	**Arrive.**	**Depart.**
No 1, Fast Limited Express.....	*12 15 A M	*12 25 A M
No 23 Cleveland Express	*2 15 A M	
No 3, Chicago Express via " ..	§6 00 A M	6 30 A M
No 25, Mich Accom Norwalk.....	.....	†6 30 A M
No 21, Toledo Ex via Norwalk...	†12 50 P M	†3 20 P M
No 5, St Louis Ex via Sandusky..	*10 45 A M	*10 50 A M
No 9, Chi Pac Ex via Norwalk.....	*6 15 P M	*6 40 P M
No 31, Elyria ac to Elyria only...	.....	†4 30 P M
No 27. Conneaut Accommodation	†8 10 A M	.....

Sunday train for Nottingham—Depart 8:15 a. m, and 1:45 p. m.; returning, leave Nottingham at 8:50 a. m, and 3:45 p. m.

Reference marks—* Daily, † daily, except Sunday, § daily, except Monday.

A local Cleveland and New York sleeper daily on No. 12, leaving Cleveland at 2.45 p. m.; arrive Grand Central depot, New York, 10.30 a. m.

For full information as to trains and counections apply at the Union ticket office, corner Bank and Superior streets, under Mercantile Bank.

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EASTWARD.	Arrive.	Depart.
Buffalo Passenger.....	*10 40 A M	*10 45 A M
Chicago Passenger.....	*9 00 P M	.....
Local Freight	* 4 40 A M	* 5 45 P M
WESTWARD.	Arrive	Depart.
Chicago Passenger	.....	*6 45 A M
Fostoria Pascenger	*4 46 P M	*4 51 P M
Local Freight.....	* 5 00 P M	* 5 50 P M

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Depart—*7:40 a. m., *1:35 p. m.

EUCLID ACCOMMODATION.

Depart—*6 24 a. m, *9:10 a. m,. *5:05 p. m.

*Daily except Sunday.

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Marine Record.

Published Every Thursday at 144 Superior Street, [Leader Building] Cleveland, O.

A. A. POMEROY, EDITOR AND PROP'R

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Subscribers and others are respectfully invited to use the columns of the MARINE RECORD for the discussion of pertinent topics.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, OHIO, THURSDAY, AUGUST 19.

BULK OIL STEAMERS.

The possibility that Russia may at an early day become an important rival of the United States in the petroleum oil trade becomes more serious every day. As Cleveland is the home of the great petroleum monopoly of this country, and the fact that there is more or less oil traffic over the lakes, make it an interesting matter to our readers. That oil, as heretofore transported on vessels adds to risk and insurance premium, is conceded. To partially reduce this risk, it has been conceived that petroleum can be carried in bulk in steamers built for that purpose. One such steamer, the Gluckauf, launched last year, and flying the German flag, has just taken a cargo of 910,221 gallons of petroleum from New York to Bremen. She carries the oil in tanks, eight in number, with a capacity of 2266 tons, leaving one tank free to use for water for ship's use. These tanks are component parts of the vessel, which is built of steel and iron, and their respective divisions are steel bulkheads, well supported with angle irons. There are two engine room bulkheads reaching up to the spar deck, abaft of which are the engines, boilers and galley, and the vessel being lighted with electricity, great protection is afforded against fire. Each tank has a man-hole on the upper deck, from which the tanks are filled. On top of the above named cargo tanks are expansion tanks, direct on the center line of the vessel. The floors of these expansion tanks rest on the steel between deck, the capacity ranging from 19 to 29 tons. Each of the expansion tanks has a man-hole direct into the cargo tanks, also some perforated holes so as to let the oil in the cargo tanks have free access when expanding into the expansion tanks. After the cargo tanks are filled the expansion tanks have two feet of oil put into them in order to prevent oscillation, so that there is always a solid body in the cargo whether they are expanding or not, or the ship upright or laying along. The working of the tanks is very simple; they have one pipe and pumps so arranged as to pump out or fill in as the case requires.

It is thought that the development of the Russian oil flow has induced the Standard Company to send emissaries into that field, but the talk about the Standard acquiring a monopolistic foothold is scouted by representative Russians, who hold that the Russian government would lend its aid to defeat that object. In this regard Bradstreets says that "Inasmuch as the westward Black sea shipments are now in the hands of the Rothschilds, who had previously acquired large French, Italian and Austrian refining interests, it is most improbable that much inducement is offered to the Standard people to obtain a foothold in Russia unless it may be inferred that they are acting through the Rothschilds."

In defining his observations on this question Minister Cox says: "The future of the Russian petroleum industry is principally contingent upon a continued large and economic production of the Balakhnain territory, increased transportation facilities, the extent of government subsidy or support, and finally, upon the hope of diminished production and higher prices in America. Among the elements of its weakness is the very natural probability that when this circumscribed territory shall, in due time, diminish in productiveness or maintain its productive power at a greatly increased cost, that no new territory of corresponding value as to economic development and convenient location may be substituted.

"To a far greater extent than in America does successful permanency depend upon an extremely low cost for the crude article. With a yield of only about 30 per cent of refined petroleum as compared with a yield of 70 to 85 per cent from the American crude, there is remaining an enormous residual product, very little of which even now can be profitably marketed and very much of which can not be marketed at all."

It will appear then that if this bulk oil carrying steamer proves a success others will be added to the trade, which will insure cheap and safe transportation of oil, thereby enabling this country to continue to command the petroleum trade in foreign countries.

FOREST FIRES.

Neither the present or the prospective timber supply of the lake region, already greatly reduced by gross mismanagement and carelessness, justifies any such loss as this country has experienced during the past six weeks, and it should be the duty of legislators to enact state laws for the protection of forests. Forest fires are inevitable, especially in regions of light or uncertain summer rain, yet by due care they can be greatly reduced. They are generally the result of carelessness, the starting of brush fires upon farms, the camp fire of the hunter or woodsman. Such carelessness should be held responsible under the law and the law strictly enforced.

These fires have burned over what was the most valuable and productive white pine forests in the world, the great pine belt of Minnesota, Wisconsin and Michigan. They have destroyed thousands of acres of timber upon the waters of the upper Chippewa in Wisconsin, on the streams that flow into the Menominee, both from Wisconsin and Michigan and along the shores of Lake Superior, and masters of vessels, trading in that region, report the smoke so dense as to make navigation exceedingly difficult. The region which these forest fires have swept over is by nature a forest country. Its severe climate in winter, its sandy and often barren soil and insufficient natural drainage render it unsuitable for ordinary agricultural crops. Pine grows here, however to the greatest perfection, and to the perpetual production of pine any broad system of agriculture would devote all such regions. Not only do these fires destroy the standing timber but also the stock that represents millions of dollars worth of labor, and renders the soil unfit for supporting a further growth, making the forest land a wothless desert.

SECRETARY WHITNEY has determined to include in the list of new cruisers for which proposals are to be invited, the large unarmed cruiser authorized by the bill passed two weeks ago to increase the naval establishment, and has directed that for this vessel the plans prepared by Chief Constructor White of England for the ship known as Number 27 be used. These plans contemplate a vessel of greater power and speed than any cruiser now afloat—in fact, the very highest powered vessel of the kind in the world at the time of completion. The principal dimensions of the vessel are: Length over all, 335 feet; beam extreme, 48 feet 8 inches; draft, mean, 19 feet 6 inches; load displacement, 4,413 tons; estimated speed, 19 knots. The main battery consists of four eight-inch and six six-inch breech loading rifles; secondary battery, eight 57 mm single-shot Hotchkiss guns, two 37 mm revolver machine guns, and one short gatling. The hull will be constructed of steel throughout, with double bottom running the entire length of the machinery space or 150 feet. The machinery, magazines, shell rooms, torpedo rooms, and steering gear are placed below an armored deck which is four inches thick on its sloping sides, and 2½ inches on the horizontal part amidships. The boat will be provided with five above water torpedo launching tube, electric search lights, incandescent lighting apparatus for lighting ship, and a complete system of exhaust ventilation for living spaces, in connection with the system for forcing combustion. The engines will be capable of developing 10,500 indicated horsepower with forced draft.

THE Sherman brigade will hold its annual reunion at Crestline, Ohio, on the 25th, 26th, 27th, and 28th inst., and a pleasant time is anticipated. McLaughlan's squadron of cavalry, which had the honor of opening communications with the blocking fleet off St. Catherine's Sound, Georgia, when Sherman's army of invasion reached the seaboard, will be present and expects to have a joyful season.

OBITUARY.

CAPTAIN SAM MOORE.

Captain Sam Moore, until recently one of most prominent vessel men on the lakes, died at New Orleans Monday night of congestive malaria fever. His illness was very brief. Last week he wrote home saying that he was enjoying the best of health and Tuesday his wife received a telegram announcing his death. Captain Moore has been identified with the lake marine as a master and owner of vessels for the last thirty years, and was highly esteemed for his excellent qualities. His early life was spent in the north of Ireland, where he was born December 26, 1833. At the age of fifteen years he shipped on an ocean going vessel, and during the ensuing seven years made voyages to almost every part of the world. In 1852, having received a thorough training in seamanship, he arrived in New York, and in company with Captain Buckley set out for the lakes. On reaching Buffalo he secured a berth on a sailing vessel, and early in the spring of that year reached Chicago. From that time he has made Chicago his home. Two years after coming to the lakes he was made master of a vessel, and in 1857 he invested his savings in the schooner Eliza Logan, which he owned and sailed for several years. Subsequently he was owner and master of the Kate Richmond, City of Milwaukee, Golden Harvest, Dan Tindell, Bay State, Golden West, and Two Fannies. His first and only wreck experience was in the Two Fannies, the vessel drifting on a reef at Elk Rapids, although she was afterwards recovered and rebuilt. In 1878 he bought the schooner Zach Chandler and sailed her until the summer of 1882, when he sold out and went to Europe to visit the home of his childhood. Having amassed a comfortable fortune he decided to abandon the lakes for good, and live the remainder of his days in quiet retirement. The old sailor, however, found life away from the water more dreary than he anticipated, and last year he built a small steamer, which he christened the Bessie M. after his little daughter. When the boat was completed he took her to New Orleans through the Illinois River and down the Mississippi, accompanied by his family and a party of friends. Since reaching New Orleans he has employed his time in taking excursion parties out to the National Cemetery on his steamer. He owned considerable real estate in Chicago and leaves besides his wife a three-year old daughter.

INMAN'S LINE OF TUGS.

All steamers and vessels trading to Duluth will please take notice that the tugs owned by Williams, Upham & Company have consolidated with B. B. Inman's tugs, forming a line of six first-class tugs. We shall do all in our power to give satisfaction, both in our work and prices.

We are now prepared to take contracts for wrecking jobs, raft towing, dredging, and vessel work. The line will be christened The Inman Line, and will be fitted with a first-class wrecking fitout, steam pumps, hawsers, diving suit and lighter. B. B. Inman as manager.

Steam, as compared to water, occupies 1,728 times as much space. A cubic inch of water will make 1,728 cubic inches of steam at atmospheric pressure. Now, if this steam is compressed into half the space it occupies at atmospheric pressure, it will be double that pressure, or 15 lbs. above the atmosphere; it will then occupy only 864 cubic inches. If reduced again to half its volume, it will occupy 432 cubic inches, and will have 30 lbs pressure. Reduced again to half the volume, the steam will occupy 216 cubic inches, and will have 60 lbs. pressure to the square inch. We can go on reducing in this way until we find that a cubic inch of water turned into steam and compressed into a space of three cubic inches, will have the somewhat enormous pressure of 3,840 lbs. to the square inch.—*Mechanical Engineer.*

The steambarge Clinton, on her way from Chicago to Kingston, with two barges in tow, broke her eccentric straps when fifteen miles off Milwaukee, and had to enter that harbor for repairs. The two barges she left out in the lake, and they were kept under sail until a tug arrived to tow them into harbor.

A sudden and unaccountable rise of water in the river was followed by a strong outward current. The propeller Conemaugh got caught in it and her starboard quarter was swung against the Lackawanna coal trestle. It took six tugs to pull her away. Slight damage was done to the dock and boat.—*Buffalo Express.*

[*Around the Lakes Continued from 1st Page.*]

ERIE.

The new flash light pier was completed on the 13th by Strang & Gilmour of Lorain. The contract was to build a pier 400 feet in length; 10 feet in width, extending in a north westerly direction from the peninsula, and at a point 100 feet east of the flash light. Captain Gilmour riprapped the last crib, at the outer end. Captain Bumpus of the lighthouse engineers' department was the inspector of the work. Since the pier was sunk there has already been formed a beach over two rods in width west of the pier and off the lighthouse. While the action of the winds may wash the sands out from the outer end of the pier, which, by the way, runs from two to seven feet in depth, it will without doubt form a heavy bar, which cannot help but give the flash light the protection the department meant to secure by having the structure built. The cost was but $5,500, but it will prevent the entire dissolution of that portion of the peninsula.

GRAND HAVEN.

The steamer Emma E. Thompson sprung aleak in Lake Michigan shortly after leaving port, the water gaining so fast on the pumps that her fires were put out, and she sounded distress signals, which were responded to by the propeller Anna Laura. The water logged steamer was towed into this port and made fast to the south pier where she settled down in eighteen feet of water. The Thompson is owned by S. B. Cobb, and is insured for $8,000 in the Ætna. As soon as Mr. Cobb learned of the accident he engaged a large rotary steam pump and shipped it to Grand Haven on the steamer Dunbar. Captain Rounds, representing Ætna, accompanied the expedition. As soon as the Thompson is pumped out she will be towed to Chicago by the Dunbar.

DULUTH.

Captain Ira Mansfield, master of the Iron Cliff, which arrived on the 13th with coal, was sick on the way up and is still confined to his bed.

There is a very strong demand for tonnage at this port just now at 4 cents, and the prospects are that the demand will continue all season.

A vessel was chartered this week for ore from Ashland to Chicago, $1.38.

Captain Ray T. Lewis has concluded to go into the newspaper business and articles of incorporation have been taken out for the Journal of Commerce Publishing Company, with a capital stock of $25,000. Captain Lewis will assume the business management of the corporation. He is loud in his praises of the present prospects of Duluth, and predicts for it a brilliant future. Captain Lewis is a gentleman of wide experience in business affairs, and will be a valuable addition to the business circles of the city.

Major J. M. Mansfield, lighthouse engineer of the eleventh district, is here investigating the necessity of having a new lighthouse on the inner end of the south pier, making a range with the present light. He is very much in favor of it. He also goes to Two Harbors to see about establishing a lighthouse at that point.

The steamer Queen of the Lakes, plying on Vermillion lake, near Duluth, was burned to the water's edge Monday morning. Loss, about $4,000; insurance, $2,000. She was owned by Barney Lynch of Duluth.

TEXAS.

Captain Chapman, of the life saving service, with the aid of his marine glass, discovered that there was something wrong on board a steam yacht off shore in Mexico bay, and that the yacht was in distress. He took a small boat with one man, Perry Marsh, a surfman, and went to the assistance of the yacht. The lake was not very rough near the shore, but once outside they encountered very heavy seas. People from the balcony of the hotel and along the shore watched the small craft with much anxiety. Many times they thought the little boat was swamped, but she lived and boarded the yacht about three miles out which proved to be the Fredonia, Captain Wm. Parks, from Dunkirk. She had taken fire around the arch by over heating. She was on her way to the Thousand Islands with a load of passengers. The passengers were much excited and alarmed, but by the efforts of the crew and the two men from the station, the fire was extinguished. By the advice of Keeper Chapman the yacht was headed for the little bay at Pleasant Point, where she can lie in safety until repaired. The two men from the station by great skill and hard rowing returned. As they neared the shore they were cheered by hundreds of people, who had been watching them on their trip. Too much can not be said in praise of the two men who volunteered to go to the assistance of the yacht, especially in such a dangerous sea.

DETROIT.

Special to the Marine Record.

August 17.—It is a fact worthy of record that on this date, just two hundred and seven years ago, the first vessel to plough through the lakes passed Detroit with a southwest breeze, entered Lake St. Clair on the same date, and Lake Huron on the 23d. She was bound for Green Bay for a load of furs. This craft, as your readers have already been informed, was the Griffon, a full-rigged bark, minus top gallant topsails (an exact engraving of which your correspondent has recently come into possession of, and which is highly prized.) Fate had it that she was never to return, for on the 18th of September following she foundered in Green Bay and all were lost, together with a cargo of furs; the first marine disaster and loss of life on the lakes. She was 60 tons burden, and Captain Tonty was master of the ill-fated craft.

As a reminder of past events it may also be noted that thirty-four years ago the 20th of this month the steamer Atlantic, Captain Petty, went to the bottom of Lake Erie with one hundred or more lives, by a collision with the propeller Ogdensburg, off Long Point, Lake Erie, with a valuable cargo, and considerable treasure on board. These are the echoes of the past and can not easily be forgotten.

The tug Gladiator which has just had placed in her at Buffalo, the boiler of the tug Kate Williams, burned last year, passed here on Thursday for Milwaukee, with the barges Stephenson, Carpenter, Uranus, and Wenona in tow.

The tug Crusader has just been having repairs made on her at the Detroit drydock. The work on the new steamship at this yard is progressing slowly. The beams are all in position, however, the lining and considerable outside work done.

A squall which occurred on the river the other day, brought into collision the barges Warner and Wm. McGregor. The latter lay anchored in the stream and the Warner was passing, in tow of the steamer Fred Kelley. The squall caused the Warner to swing around against the McGregor. The damages were not of serious import to either, the Warner suffering the most.

The river steamers are at high tide with excursionists, the travel by the Greyhound surpassing all others, she being much larger and more roomy. All, however, are well patronized, leaving no space unfilled.

The vessel passages at this point are far more numerous than ever before recorded, and as a general thing all are loaded either way with fair paying freights.

Captain George McLeod passed through here on Thursday, en route to Port Huron, to hold a survey on the tug Mocking Bird which was recently ashore.

Late arrivals from Lake Superior report the loss of the tug George Hand at Isle Royal. She was 24 tons burden, and was built in Buffalo in 1868.

The steambarge Otego and schooner Belle Hanscomb were chartered for wheat from here to Buffalo at 2 cents freight which is half a cent lower than recent rates.

The tug Winslow has gone to Rifle river for a raft which will be taken to Buffalo.

All the steamers plying to Mackinac are better patronized than ever before. They take full loads and the passenger traffic is brisk.

The steamer Pearl, Captain John Edwards, came up from Cleveland Saturday evening and on Sunday took a large numbers of excursionists to Put-in Bay, while to other points the rush was tremendous.

The steamer Spokane met with a slight mishap Friday by stranding at Point au Pins, en route to Lake Superior. She was released by the aid of the steamers at hand without damage at an expense of $1.000.

On Saturday night some unknown fellow regardless of the laws of morality, stole from the tug Dave and Mose a spirit compass worth $28, a suit of clothes worth $17, an overshirt and overalls worth 1.50, making a total of $33.50.

On Sunday quite a skirmish occurred at the foot of Woodward avenue where the steamer Garland, every half hour, lands and takes on board excursionists. During her absence the small steamer Daisy took possession of the place and would not yield to the other boat until she had got her full complement of passengers. There was a good deal of loud talk meanwhile, but no blows, the Daisy holding the fort until ready to depart.

Captain P. J. Ralph, the well known vessel owner, has just returned home after two years absence in foreign lands, in good health and spirits.

Captain Grummond, of Detroit, has been advised that his schooner A. Boody had met with disaster on Lake Michigan and was run into shoal water at Beaver Island, where she sank. She is ore laden from Escanaba to Cleveland. The tug M. Swain was sent to her. The Boody is one of the old canallers. She rates A 2, and is valued at $8,000.

Captain H. W. Davis was made master of the barge City of the Straits and Captain David Genan master of the schooner A. C. Maxwell.

The schooner A. Boody, reported above as sunk at the Beavers, was raised and brought here, arriving yesterday morning, and will, if permitted, be taken on to Cleveland for discharge. HALL.

CLAYTON.

Special to the Marine Record.

Friday afternoon the weather looked as if we were going to have a storm, and sure enough, after 6 o'clock p. m. the electric fluid began to pass around very freely. The steamer St. Lawrence had the hook and ladder excursion to Alexander Bay, and it looked as if the boys were not going to have much of a time. At 9 o'clock the storm burst in its fury, with vivid lightning, thunder, rain and heavy gusts of wind, which were awful on land and water. The steamer St. Lawrence arrived at 11 o'clock p. m., and the passengers were safely at home. A heavy gale of wind unroofed Martin Barney's big building, near the railroad, and the timbers and boards were made kindling wood and scattered over the railroad dock. The St.Lawrence lay at the lower end of the Barney dock. Her pilot house was torn off, her spar was broken near the top of the pilot house, the wind lifted the forward hurricane deck and a large share of the rail on the promenade deck, and smashed chairs by the wholesale. Captain Estes had just gone to his room in the texas, abaft of the pilot house, to retire, when the storm came on. No one was hurt, as the crew had just gone below to retire. The damage to the St. Lawrence will be from $800 to $1,000. Other steamers were out. The steamer Jessie Bain had reached the head of Round island park when the squall struck her. It lifted the yawl boat clear off the deck and landed it on the island. The Bain was blown sidewise to the shore. The steamer Juniata pulled her off without damage. The steamer Magic lay just behind the St. Lawrence. She lost her awnings and awning frame; was let off cheap.

A scow got adrift at Alexander Bay and run afoul of the Idle Hour and punched a hole in her.

The captains of the steamers report the electric storm the worst for years.

A large barn on the Ashland farm, 150 feet long, with two hundred tons of hay, near Three-Mile Bay, was struck by lightning during the storm and totally destroyed.

The excursion business is brisk, and a great many people are on the river now. Your correspondent took a trip among the islands on Sunday afternoon on the steamer Magic, and she runs the Magic riff where there is just channel enough for her to run. You can almost touch the trees on either side. It is grand. Why do we need to go to Europe when the old St. Lawrence has such scenery to behold? B.

ASHTABULA HARBOR.

Special to the Marine Record.

The schooner L. Hanna, after unloading her cargo of ore at this port loaded coal for Escanaba. Captain Sherwood is making excellent time with the Hanna this season having brought down five cargoes of ore and taken up five loads of coal.

The new tug Eliza J. Redford, that cleared from Oswego sometime since for this port, arrived here and began towing the first part of last week. The Redford is a nice tug and has done a good work since she came here, having towed in among others the large tow barge Susan E. Peck.

The Lake Shore ore docks at Ashtabula expect increased business for the rest of this season. It is stated that they have just advertised for seventy-five additional laborers.

The steamship Geo. T. Hope and her consort Polynesia, arrived on the 7th to load coal for above. C.

PORT HURON.

A steam ferry has been put on the river between Marine City and Sombra, Ont.

The schooner Pomeroy unloaded a cargo of 27,000 bushels of corn at Sanborn's elevator Monday.

The steamer Concord was inspected by Inspectors Cole and Fitzgerald during the week.

The steamer Darius Cole now carries a band of seven pieces, which makes it very pleasant for the people riding on this boat.

ST. CATHARINES.

The Deputy Minister of Marine has issued orders to the proper officials along the line of Welland canal to enforce the law which requires masters and mates to be properly qualified by the holding of certificates under provisions of the master and mates certificate act. All vessels found not complying will be detained, and a fine of $100 imposed. The section of canal enlargement work which was recently given up by Jones-Innes, & Company has been relet to Murray & Cleveland, who will begin work immediately.

The work of enlarging the new Welland canal is being rapidly pushed. At its intersection with Lake street and further down large gangs of men and horses are at work raising the banks to the required height. The cut stone for the locks is being brought on the ground as fast as finished at the quarries. In the government yard at Port Dalhousie there is stored an immense quantity of heavy timbers, which will be used in enlarging the lock gates.

BAY CITY.

Special to the Marine Record.

Captain Richard Armstrong, manager of the Saginaw river fire tug boats, has returned from Duluth, and while there closed a contract to furnish Duluth harbor with a fire tug, for better protection of the docks and abutting buildings. He also paid a visit to Chicago and took a look at the new fire boat.

The tug Tom Maytham and four barges came into the river Monday noon from Buffalo.

Captain Wm. Brown, of the schooner G. W. Wesley, was home on a flying visit to his family. Captain Brown reports everything lovely and looks for a rise in freights before long.

The schooner Senator Blood, Captain Glass, arrived in the river Monday with 550 tons of coal for the water works. Carson never gets left on the up freights.

A. F. Bartlett & Company, of East Saginaw, are building a set of hoisting engines for Captain Forbes' new vessel, now nearly completed at F. W. Wheeler's shipyard. This firm is fast coming to the front in this line of business.

The sloop Nellie, from Sand Beach, was struck by the severe storm of Friday last. A hole was stove clear though her starboard bulwarks and some of her rigging lost.

A party of Saginaw people chartered the steamer Sutton a few days ago and visited the Bay. They ran aground near Bay View, and one of the party had to row ashore in a skiff and walk to the Bay for assistance.

The old barge Mary Stockton has gone to Tawas to load for Cleveland. This is her first trip this season.

Captain Henry Lester and his barge J. L. Warner came in Monday with a load of coal for up town. Captain Henry says if you own a boat just handle the money yonrself and you will come out all right.

The steamer Metropolis, while about three miles off Tawas, on Friday, broke her cross head. It was temporarily repaired and she reached port in safety, where repairs were made. On arriving in the river and when just starting on a trip to Point Lookout, she again broke down and was towed to Bay City.

Freights remain unchanged, but a good demand for tonnage will have a tendency to make a rise soon.

The owners of the steam sand scow Ida Burton, have opened a sand yard at this port.

Captain Forbes' new vessel, building at Wheeler's shipyard, will be launched in about three weeks. SHAW.

MARQUETTE.

The propeller Badger State was forced to put back here Monday evening by the breaking of a valve in her pumps. The damage was repaired in a few hours and she continued down.

The Canadian steamer Frances Smith, from Collingwood to Ste. Marie, touching at Mackinaw island, was seized at the latter port Monday by order of Deputy Collector Watson for failing to report here at the custom house. Part of her machinery has been taken ashore to prevent her getting away, and she will be held until the difficulty is settled.

ESCANABA.

The North Ludington Company's lumber yards at Escanaba, Mich., were destroyed by fire early Sunday morning. The loss is estimated at $30,000, partially covered by insurance.

KINGSTON.

Work was commenced at Cornwall last week on the raising of the sunken steamer Passport, under the superintendence of Mr. Beauchemin, of Sorel, a mechanic skilled in matters of this kind.

SANDUSKY.

David Williams, of Oswego, a sailor on the schooner Pulaski, fell from the rigging of that boat here and broke his left leg between the knee and ankle and sustained severe injuries about the head and body.

PASSED PORT COLBORNE.

PORT COLBORNE, Ont., Aug. 17.—Passed up—Schooners Mediterranean, Charlotte to Detroit, pig iron; Clara Touell, Kingston to Cleveland, light; Laura, Kingston to Cleveland, light; propeller Oneida, Ogdensburg to Chicago, general cargo.

PORT COLBORNE, Ont., Aug. 18.—Passed up—Schooner Q. R. Merritt, Kingston to Toledo, light; steamship W. A. Haskell, Ogdensburg to Chicago, general cargo.

Down—Steambarge D. D. Calvin and consorts, Toledo to Kingston, timber; schooner W. I. Preston, Chicago to Ogdensburg, corn.

Wind north, light.

PASSED DETROIT.

DETROIT, Mich., Aug. 17.—Up, a. m.—Tug Jessie, 2; barges R. J. Hackett and consort, 2:30; Lowell and two barges, 8:50; tug Hercules and schooner Belle Hanscomb, 9; barge Oscoda, 9:20; Hiawatha and consort, 9:50. Afternoon—Propeller New York, 1; M. Sicken and three barges, 1:20; M. M. Drake, 3:30; Waldo Avery and consort, 5:10.

Down, a. m.—Tug Folger and schooner J. C. Woodruff, 2:10; propeller Clarion, 7; barge Empire and three barges, 8:30. Afternoon—Tug John Owen and schooners Michigan, Nicholson, F. B. Gardner, 12:40; propeller Cuba, 1:20; barge Nipigon and four barges, 3:30; propeller S. F. Hodge, 3:30; tugs Ella Smith and two barges, 3:50; Park and barge O. J. Hale, 4:20.

DETROIT, Mich., Aug. 18.—Passed up, forenoon—Propeller Annie Young, 3:40; tug River Queen, and schooners John Kelderhouse and Monticello, 4:10 propeller Myles and consort, 4:20; propeller S. C. Baldwin and four barges, 8:40; tug Swain and schooners H. C. Richards, Eliza Gerlach, 10; propeller Smith Moore and the schooner Delaware, 10:40; Egyptian and consort, 10:40; Alpena, consort, and the schooner Unadilla, 12.

Afternoon—Propeller Superior, consort and schooner Saveland, 4:20.

Down, morning—Propeller D. C. Whitney and consort, 2; tug Metamora and three barges, 2:20; propeller City of Concord and consort, 3; propeller Conestoga and the schooner Schuylkill, 4; tug Castle and the schooner C. Sherman, 7:30; Propeller Alcona, consort, and schooners Havana and Jura, 8:30; propeller Wissahickon, 8:30: propeller Kalkaska, 9:10; Siberia and consort, 11; Continental, consort, and schooner C. H. Johnson, 11:20; Iron Age, and the schooner L. A. Law, 11:20.

Afternoon—Propeller R. P. Ranney and schooners S. J. Tilden, Negaunee, 12:30; tug Porter and schooners Our Son, F. W. Gifford, Southwest, 2; propeller Progress, 2:30; Sanilac, 3:30; Gordon Campbell and schooner Allegheny, 3:50.

THROUGH THE STRAITS.

MACKINAW CITY, Mich., Aug, 17.—Down—Propeller Progress, 7 a. m; schooner J. S. McLaren, 8:30; Naiad, 9:40; H. M. Scove, Annie M. Peterson, 11:20; Geo. W. Davis, 1:15 p. m.; tug O. Robertson, 4:15.

Up—Propeller Buffalo, 1 a. m.; schooner John B. Wilson, 7:10; David Stewart and Itasca, 9; Polly M. Rogers, 9:30; George C. Finney, 2:40; propeller Joseph L. Hurd, 3:30; Dean Richmond, 5:40; J. H. Outhwaite with schooners Thomas Gawn and Typo, 5; Morley, 6:10.

MACKINAW CITY, Mich., Aug. 18.—Down—Propeller Newburg, 11:30 last night.

Down to-day—Propeller Albany, 515 a.m.; Anna Smith with schooner John Shaw, 5:30; Alaska with one vessel, 3 p. m.

Up—Propeller Commodore, 3:15 a. m.; Wm. J. Averill, and Arcadia, 8:30; Weston and three barges, 10; Wm. Chisholm and consort, 2 p. m; Wm. H. Gratwick with two barges, 6; New York, 6;15.

Wind northwest, gentle.

THROUGH THE SAULT.

SAULT STE. MARIE, MICH., August 17.—Down, a. m.—Propeller Canada, steambarge Sparta, schooner Sumatra, 7; steambarge Cormorant, schooner Richard Winslow, 9; steambarge Valentine Swain, schooner Helvetia, 10:10; steambarge Iron Duke, schooner Iron Cliff, 11:40. P. M.—Tug Remora, Annie Clarke with raft, 2; propeller Badger State, steambarge Minneapolis, schooner William McGregor, 7:30; steambarge Cumberland, W. S. Crosthwaite, Erastus Corning.

Up, a. m.—Tug Mystic, schooner H. G. Cleveland, 9:30; steambarge Onoko, 10:30, steambarge John N. Glidden, schooners Fred A. Morse, George H. Warmington, 12. P. M.—Propeller Justice Field, schooners Lillie May, Emerald, G. W. Bissell, Magnet, F. M. Dickinson, 1:35; steambarge S. Langell, schooner Sweetheart, F. M. Knapp, E. R. Williams.

Cleared, down—Propellers Messenger, Ste. Marie, 5 a. m.

Arrived, up—Minnie M., 7:30 p. m.

SAULT STE. MARIE, Mich.—Aug. 18—Forenoon, down—Steambarge Calumet, schooner Ironton, steambarge Vienna, schooner Verona, 3; propeller Wisconsin, 11:20; propeller Alberta, tug Record, 11:50.

Afternoon—Tug A. Sumner, schooners J. T. Johnson, P. Fitzhugh, Florida, Conquest, 1:50; steambarge Escanaba, schooner Thomas L. Parker, 6; steambarge George King, schooners Levi Ralston, John Sherman, C. L. Young, 7.

Up, morning—Steambarge James Pickands, schooner Wayne, 8:30; steambarge F. J. Macy, schooner John Burt, Camden, 10; propeller B. W. Blanchard, 11; propeller Fountain City, steambarge Cuba, schooner Donaldson, 11:40.

Afternoon—Tug Record, schooner J. A. Smith, 3.

Cleared, down—Propeller Minnie M., 5 a. m.

Arrived, up—Propellers Ste. Marie, Messenger, 7:30 p. m.

Mr. J. B. Cowles, a former member of the Globe Iron Works, enjoyed a trip to Duluth on the steamer Onoko last week.

HISTORY OF LAKE NAVIGATION.

BY J. W. HALL.

Written for the Marine Record.

CHAPTER LXXXV.

STEAM ENGINES IN THE DEEP.

Were such a thing possible a comfortable fortune might be realized in the recovery of the vast number of engines now lying submerged at the bottom of the northern lakes and rivers. The number lost with side-wheel steamers aggregate seventy-nine. Of this number twenty-seven lie at the bottom of Lake Erie, sixteen in Lake Huron, fifteen in Lake Michigan, eight in Lake Superior, seven in Lake Ontario, and one went over Niagara Falls. Following is a revised account:

LOST IN LAKE ERIE.

Washington, high pressure, lost on Long Point in 1833.

Washington, No. 2, high pressure, destroyed by fire off Ashtabula, in 1838.

Erie, low pressure, by fire, off Silver Creek, in 1841.

Robert Fulton, high pressure, was wrecked at Point Sturgeon in 1844.

Kent, high pressure, lost by collision off Rond Eau in 1845.

Chesapeake, low pressure, lost by collision off Ashtabula, in 1847.

Indian Queen, high pressure, was wrecked at Dunkirk in 1846.

Helen Strong, high pressure, was wrecked at Barcelona in 1847.

Columbus, high pressure, was wrecked at Dunkirk in 1848.

DeWitt Clinton, high pressure, was wrecked at Dunkirk in 1851.

G. P. Griffith, high pressure, lost by fire, off Chagrin in 1850.

Wisconsin, low pressure, was wrecked near West Sister in 1852.

St. Louis, low pressure, was wrecked near Kelley's Island in 1852.

Atlantic, low pressure, lost by collision off Long Point in 1852.

Southerner, high pressure, was lost near Conneaut in 1853.

Mayflower, low pressure, was wrecked at Point au Pellee in 1854.

Alabama, low pressure, was sunk near Buffalo in 1854.

Saratoga, high pressure, was wrecked near Port Burwell in 1854.

America, high pressure, was wrecked near Dunkirk in 1854.

Wave, high pressure, was wrecked near Port Maitland in 1851.

Caspian, low pressure, was wrecked at Cleveland in 1852.

Dove, low pressure, was wrecked at Long Point in 1855.

Golden Gate, high pressure, was wrecked near Erie in 1856.

Northern Indiana, low pressure, was lost by fire at the head of Lake Erie in 1856.

Bay City, low pressure, was wrecked at the clay banks in 1862.

Telegraph, low pressure, was lost by collision in mid-lake in 1859.

Louisiana, low pressure, was wrecked at Port Burwell in 1857.

Morning Star, low pressure, was lost by collision in mid lake, in 1868.

LOST IN LAKE MICHIGAN.

Pioneer, high pressure, was wrecked on the east shore in 1834.

Detroit, high pressure, was wrecked near Chicago in 1836.

Delaware, high pressure, was wrecked near Chicago in 1836.

W. F. P. Taylor, high pressure, was wrecked on the east shore in 1842.

Champlain, low pressure, was wrecked on the east shore in 1849.

A. D. Patchin, high pressure, was wrecked on Skillagalee in 1850.

General Harrison, high pressure, was wrecked near Chicago in 1854.

Baltimore, high pressure, was wrecked at Sheboygan in 1855.

Sevastapol, high pressure, was wrecked near Milwaukee in 1855.

Niagara, low pressure, destroyed by fire, off Port Washington in 1856.

Lady Elgin, low pressure, was lost by collision, off Port Washington in 1860.

Minnesota, high pressure, was wrecked on Summer Island in 1861.

Seabird, low pressure, was destoyed by fire off Waukesha in 1868.

Milwaukee, low pressure, was wrecked near Grand Haven in 1868.

Alpena, low pressure, foundered, in 1880.

LOST IN LAKE HURON.

Don Quixote, high pressure, lost off Lexington in 1836.

Detroit, low pressure, lost by collision in Saginaw Bay in 1854.

Ben Franklin, high pressure, was wrecked at Thunder Bay in 1850.

New Orleans, high pressure, was wrecked at Thunder Bay in 1853.

Albany, low pressure, was wrecked at Presque Isle in 1853.

Garden City, low pressure, was wrecked near Detour in 1854.

Northerner, low pressure, was sunk by collision off Lakeport in 1856.

Oxford, high pressure, was wrecked near Saugeen in 1857.

Troy, high pressure, was sunk off Goderich in 1860.

Keystone State, low pressure, foundered in Saginaw Bay in 1861.

Kalloolah, low pressure, was wrecked near Saugeen in 1862.

Columbia, high pressure, sunk in mid-lake in 1866.

Bonnie Boat, low pressure, was wrecked at Kincardine in 1869.

Waubuno, low pressure, foundered in Georgian Bay in 1879.

Marine City, low pressure, destroyed by fire in Saginaw Bay in 1880.

LOST IN LAKE ONTARIO.

Sir Robert Peel, was destroyed by fire at Johnson island in 1838.

Jack Downing, sunk in mid-lake in 1835.

Queen Victoria, sunk near Niagara in 1851.

George Clinton, sunk in mid-lake in 1851.

Ocean Wave was burned in mid-lake in 1853.

George Moffat was wrecked in mid-lake in 1864.

Abyssinian was burned in mid-lake in 1873.

LOST IN LAKE SUPERIOR.

Julia Palmer, low pressure, lost in Two Heart river in 1847.

Arctic, low pressure, wrecked at Huron island in 1860.

Cleveland, low pressure, was wrecked at Two Heart river in 1864.

Sunbeam, low pressure, foundered in 1863.

Superior, high pressure, was wrecked in 1856.

Traveler, low pressure, was wrecked at Eagle Harbor in 1865.

Gazelle, low pressure, lost at Eagle Harbor in 1860.

Cumberland, low pressure, lost at Isle Royal in 1877.

LOST IN LAKE ST. CLAIR.

General Scott, high pressure, was sunk by ice in 1848.

LOST IN NIAGARA RIVER.

Caroline, low pressure, was fired and sunk in 1837.

LOST IN DETROIT RIVER.

Monisstunk, low pressure, was sunk by collision near Malden in 1839.

General Vance, high pressure, lost by explosion, opposite Detroit, in 1844.

E. K. Collins, low pressure, was destroyed by fire, near Detroit, in 1854.

T. F. Parks, low pressure, was lost by fire, opposite Detroit, in 1870.

The loss of propeller engines is as follows:

Emigrant was wrecked at Avon Point, Lake Erie in 1845.

Phœnix was burned off Sheborgan in 1847.

Goliah was destroyed by fire in Lake Huron in 1848.

Henry Clay was lost near Long Point, Lake Erie, in 1851.

Monticello was wrecked on Lake Superior in 1851.

Vandalia (British), sunk by collision in Lake Erie in 1851.

Oswego was sunk by collision in Lake Erie in 1852.

Samson was wrecked in Lake Erie, near Buffalo, in 1852.

Oneida foundered in Lake Erie, off Ashtabula in 1852.

Peninsula was wrecked in Lake Huron, at Thunder Bay, in 1853.

Princeton was sunk in Lake Erie, off Barcelona, in 1854.

Boston was sunk by collision in Lake Ontario, in 1854.

Bucephalus foundered in Saginaw Bay in 1854.

H. A. Kent caught fire and sunk off Gravelly Bay in 1854.

Westmoreland was wrecked at Sleeping Bear in 1854.

Charter Oak foundered in Lake Erie in 1855.

Delaware foundered in Lake Michigan off Sheboygan in 1855.

Rossiter was wrecked in mid-lake in 1855.

J. W. Brooks foundered in Lake Ontario in 1856.

Brunswick foundered in Lake Michigan in 1856.

Fintry exploded in Lake Erie in 1856.

Toledo foundered off Port Washington in 1856.

Ottawa was sunk by collision in Lake Ontario in 1856.

B. L. Webb was destroyed by fire at Waiska Bay, Lake Superior, in 1856.

Louisville was destroyed by fire near Chicago in 1857.

St. Nicholas was wrecked at Sleeping Bear in 1857.

City of Superior was lost at Copper harbor, Lake Superior, in 1857.

Indiana was sunk in Lake Superior in 1858.

Lady of the Lake exploded in Lake Erie in 1859.

Manhattan was lost at Grand Marias, Lake Superior, in 1859.

Ohio exploded in Lake Erie in 1859.

Oriental was lost at Skillagalee at 1859.

Troy foundered off Point au Barque in 1859.

Milwaukee was lost by collision in the Straits in 1859.

Mt. Vernon was lost by explosion in Point au Pellee passage in 1860.

Cataract was lost by fire in Lake Erie in 1861.

Jersey City was wrecked on Long Point in 1860.

Dacotah was wrecked on Sturgeon Point, Lake Erie, in 1860.

California was wrecked on Gull island, Lake Erie in 1862.

Pocahontas was wrecked on Long Point, Lake Erie, in 1862.

General Taylor was wrecked at Sleeptng Bear, Lake Michigan, in 1862.

Banshee was wrecked in Lake Ontario in 1862.

Bay State foundered in Lake Ontario in 1862.

B. F. Bruce was destroyed by fire near Port Stanley in 1862.

Maria sunk in Lake Ontario in 1862.

Charles Mears sunk by collision in Lake Michigan in 1862.

Vermont was lost by collision in Lake Erie in 1863.

Water Witch foundered in Saginaw Bay in 1863.

Amity was wrecked on Long Point in 1864.

Scotia was sunk by collision in Lake Erie in 1864

Ogdensburg was lost in Lake Erie by collision in 1864,

Pewabic was sunk in Lake Huron by collision in 1864.

Illinois was lost by collision at Point au Pellee in 1865.

Ranger was wrecked near Port Stanley in 1866.

Wisconsin was burned in Lake Ontario in 1867.

Portsmouth was wrecked at Middle island, Lake Huron, in 1867.

Congress was wrecked at Thunder Bay, Lake Huron, in 1868.

Hippocampus foundered in Lake Michigan in 1868.

Forest Queen was wrecked by ice off Clay banks, Lake Erie, in 1869.

Colonist sunk in Lake Huron in 1869.

Belle was destroyed by fire off Port Washington, Lake Michigan, in 1869.

Tonawanda foundered in Lake Erie in 1870.

Wabash was lost by collision in Lake Huron in 1870.

J. Barber was destroyed by fire in Lake Michigan in 1871.

Free State was wrecked on Graham shoals, Lake Michigan, in 1871.

R. G. Coburn foundered in Lake Huron in 1871.

Galena was wrecked at Thunder Bay in 1872.

Lac la Belle foundered in Lake Michigan in 1872.

Union was wrecked in Lake Superior in 1873.

Young America was wrecked in Lake Ontario in 1873.

Eclipse was wrecked at Avon Point, Lake Erie, in 1873.

Ironsides foundered in Lake Michigan in 1873.

City of Detroit foundered in Lake Huron in 1873.

Sun sprung aleak in Lake Erie in 1874.

Brooklyn was lost by an explosion in Detroit river in 1874.

Comet was sunk by collision in Lake Superior in 1875.

Equinox foundered in Lake Michigan in 1875.

Mundota foundered in Lake Michigan in 1875.

Phil Sheridan was lost by fire in Lake Erie in 1875.

Persian was lost by fire in Lake Erie in 1875.

Acme sprung aleak off Dunkirk in 1876.

New York foundered in Lake Huron in 1876.

Ontonagon was wrecked off Claybanks, Lake Erie in 1876.

Tioga was wrecked at Point au Pellee island, Lake Erie, in 1877.

Trader foundered in Lake Michigan in 1880.

Zealand foundered in Lake Ontario in 1880.

Sunrise foundered in Georgian Bay in 1880.

Asia foundered in Georgian Bay in 1882.

Picton was wrecked in Lake Erie in 1882.

R. G. Peters was destroyed by fire in Lake Michigan in 1882.

St. Albans was lost by ice in Lake Michigan in 1881.

Columbia foundered in Lake Michigan in 1881.

Lake Erie was lost by collision in Lake Michigan in 1881.

Brunswick was lost in Lake Erie by collision in 1881.

Middlesex was destroyed by fire in Lake Superior in 1881.

Java sprung aleak in Lake Michigan in 1878.

The foregoing is as complete as can be arrived at from the records, to the close of navigation 1880, making the number of engines of steamers and propellers, irrecoverably lost on the lakes, at a rough estimate, at eight million dollars.

THE PRESERVATION OF IRON SHIPS.

For many years after vessels were first built of iron it was supposed that the chief wear would take place in the parts below water. The outer surface of the bottom plating was thought to be particularly liable to wasting by oxidation, and special measures were adopted for preventing corrosion by the use of paints and compositions. But it was found that whatever might be the risks of wasting by corrosion to which the outer surface was exposed, the inside surface was far more troublesome, especially on the flat of the bottom, between the deep floors, where there is a continual wash of bilge water with every movement. This fluid consists of condensed moisture from the cargo, mixed with drainage from the latter; and decomposed organic matter, such as grain, etc., is almost always of an acid character, and its effect upon the iron or steel is supplemented by the mechanical action of rubbish which has been permitted to get into the limbers. Hence it was very soon found that the inner surface of the bottom plating, as high as the turn of the bilge, must be protected from the action of such influences as these. At first a coating of pitch was employed for the purpose. Asphalt was next tried, but by common consent Portland cement was ultimately adopted as the best preservative of this part of the vessel. There is still, however, a lack of agreement in regard to the paints and compositions best suited for preventing fouling and corrosion on the outer surface. Some shipowners pin their faith to one specific and some to another, but it is very doubtful whether anything yet tried can be depended upon to keep a ship's bottom fairly clean during twelve months. Corrosion has, however, been reduced to a minimum, so that it is not unusual to find the bottom of a ship twelve years old completely, covered with an enamel like coating, formed of many layers of paint applied during that time. But all ships are not alike, the recently added paint in many cases being merely a covering to a thick incrustation of rust, and sometimes of cavernous accumulations of rust and water, the presence of which can be discovered only by the aid of a chipping hammer. Unless oxidation is thoroughly removed from iron or steel plating, and the surface is quite dry, it is of no use to apply paint or any composition for preventing corrosion. By bearing this in mind, and acting upon it, the bottom of an iron or steel ship may prove the most durable part of her. Indeed, upon drilling holes at different parts of the plating of old iron ships, it is commonly found that the loss of substance in the bottom is much less than at the top sides, and very often no depreciation at all in thickness can be discovered between the upper part of the bilges and the keel.

In a properly cemented and frequently coated iron or steel ship there will be little or no danger of the outer plating wasting by corrosion on its outside surface, except in the region of the water line, and at that part the tendency may be minimized by carefully removing the rust formed during each voyage and painting the surface. It is upon the inside surface of the plating, above the height to which cement is laid, that the wasting by corrosion chiefly takes place, and it is the top sides of an old iron ship that first come under serious repair and renewal. When the ship arrives in port and the cargo is discharged, this matter should be at once looked to, and if cleaning and repainting are found to be necessary, they should be carried out at once. When the paint is put on, too often it is laid upon the rust, and so might just as well have been kept in the paint store.

But steamers are exposed to sources of deterioration from which sailing ships must necessarily be exempt. Inaccessibility is one of these, and it applies particularly to the neighborhood of the machinery and to the interior of ballast tanks and cellular bottoms. It is practically impossible to give that attention which is needed to the portion of the hull below the working parts of the machinery, and in most vessels it is difficult to look after the framing below the boilers. The renewal of boilers is always attended with the necessity for repairs to the boiler seatings and the adjacent framework of the vessel. But such wear and tear is local in its character, and may be made good at a comparatively small cost. The interiors of ballast tanks and cellular bottoms are, of course, examined at all periodical inspections, but corrosion of the floors and longitudinal girders cannot be prevented, seeing that the double bottom space is frequently filled with water, and always damp. If the cement on the inside of the plating and frames is kept in a good condition, that is as much as can be done to preserve that part of a steamer from decay.

The corrosion which goes on in the coal bunkers, due to the presence of sulphur in the coal, and frequently of moisture also, is a serious source of mischief; but it may be minimized, and indeed reduced to very small proportions, by frequent cleaning and painting, taking care never to apply the paint to either damp or rusty surface. Whenever a steamer reaches a home port after a foreign voyage of several months' duration, the state of the bunkers should be examined, and if necessary, the remainder of the coals should be removed, in order that the ironwork may be properly dealt with.

One valuable fact in relation to the durability of iron and steel ships has for some years past been well understood by most shipowners, viz., the necessity for avoiding all wood or other linings on the inside surface of these ships above the cement level. Even in poops and forecastles all coverings to the frames and plating should be avoided. Nowhere does corrosion proceed at a more rapid rate than behind linings where moisture can collect without a sufficient current of air to evaporate it. Exposure, accessibility, and frequent cleaning and painting is necessary for the preservation of iron and steel surfaces. Whenever a surface of iron cannot be got at, as in the case of iron deck plating, stringers, tie plates, etc., below a wood deck, moisture must be carefully excluded, and this can be done only by properly attending to the calking. If the wood work is carefully fitted in the first instance, and bedded upon thick red lead paint, also if the bolts be tightly driven, and their nuts screwed upon grummets and washers, then, by keeping the deck seams tight, the durability of the deck plating may be ensured.—*London Engineer.*

LIABILITY OF THE PASSPORT.

The Richelieu Navigation Company will lose heavily by the sinking of the steamboat Passport at the entrance of the Cornwall canal. Several efforts have been made to raise her without success, however. A large number of the passengers suffered heavily by their baggage getting destroyed, for which claims have been made on the company. Some were settled, but others refused to accept the amounts tendered. Among the largest losers were Mr. W. A. Dixon, representative of the wholesale firm of jewelers of Ellis & Company, of Toronto, who had trunks containing jewelry and watches valued at upward of $40,000. The Misses S. Greene, A. Butters and J. Butters, all traveling together from Niagara Falls with a handsome collection of new clothing, dresses, etc., state their aggregate loss to be about $1,000; Miss Wright, of New York, and Miss Hadrille, of Montreal, say $600; Mrs. and Miss Kirkwood, $500, Mr. and Mrs. G. D. Wood, of Winnipeg, who were on their wedding trip, lose a great number of handsome presents and expensive wardrobe, valued at upward of $700. Mr. Dowe and wife, of Toronto, and Mrs. and Miss Kirkwood, the latter particularly, have suffered great losses through damages to new dresses and ornaments. Should the proposed attempt to raise the sunken Richelieu steamer Passport prove successful, she will probably be taken to Sorel and her entire upper portion rebuilt, her fittings renewed, etc.

The propeller Nipigon has been released by Captain Harbottle, and has left for Kingston.

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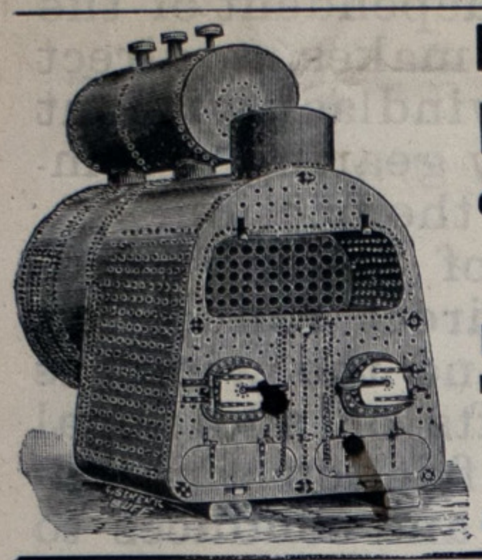

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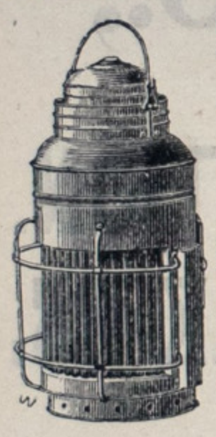

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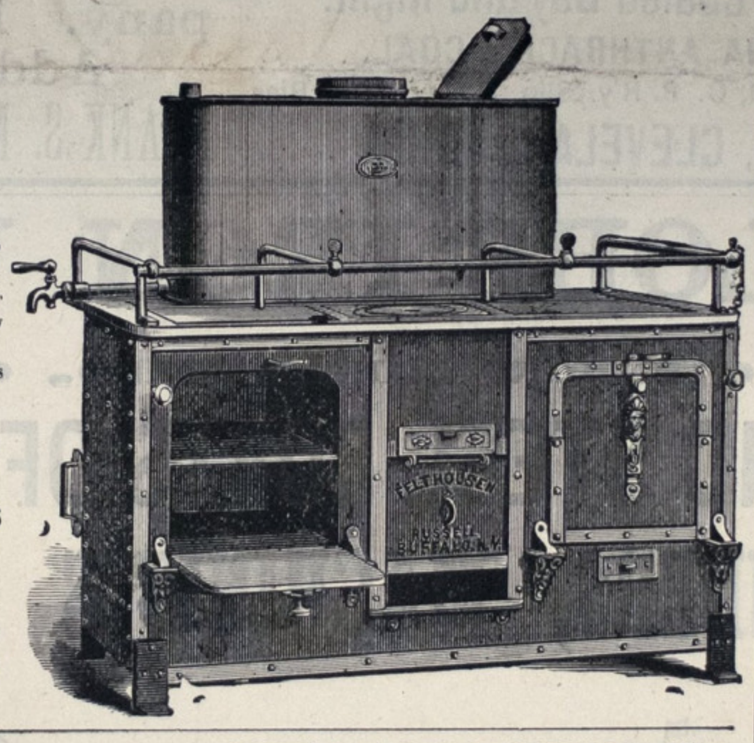

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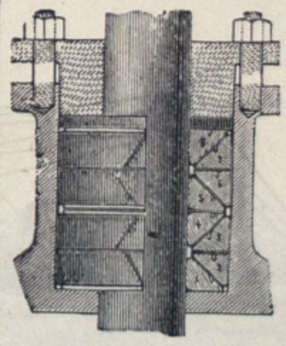

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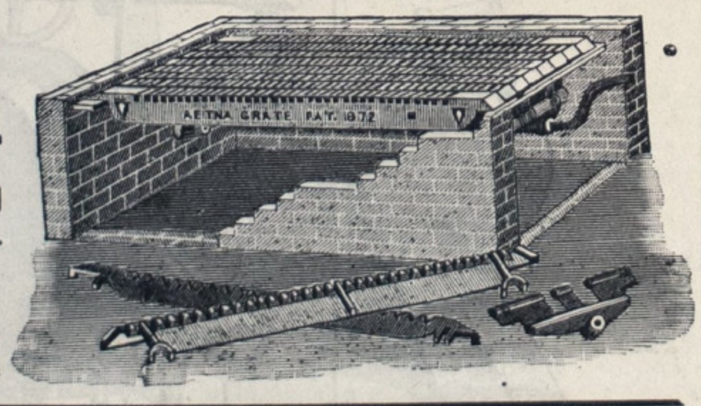

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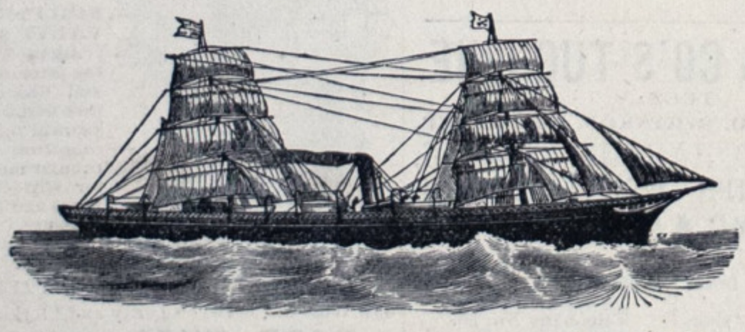

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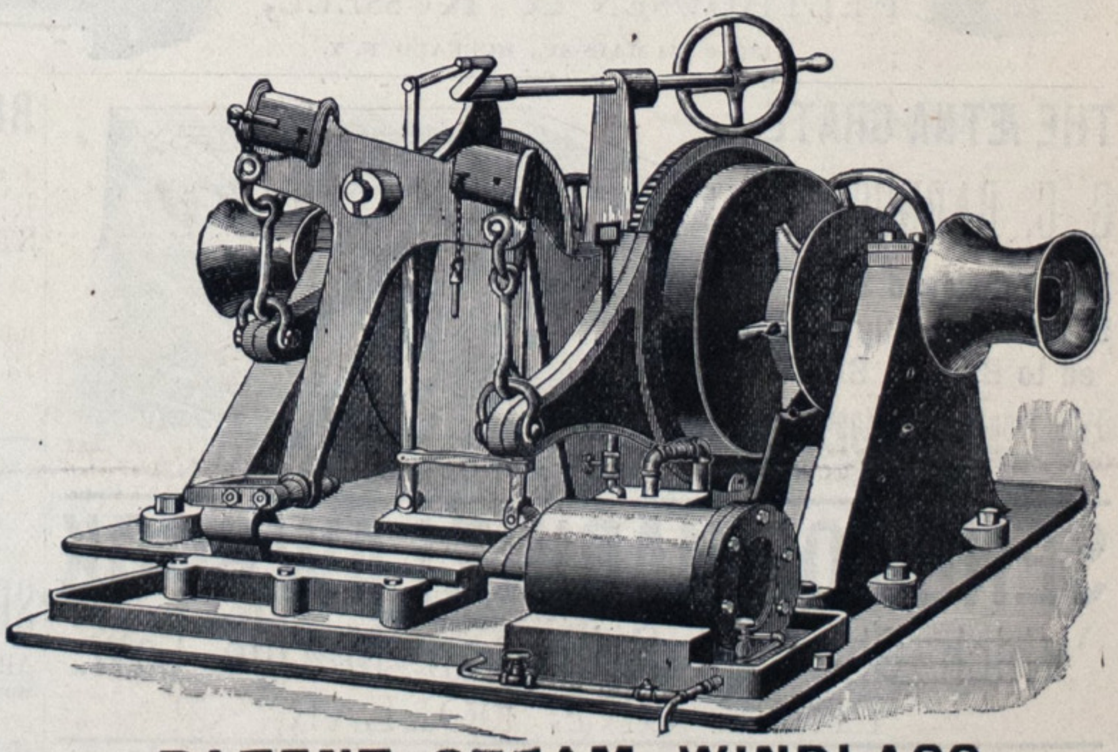

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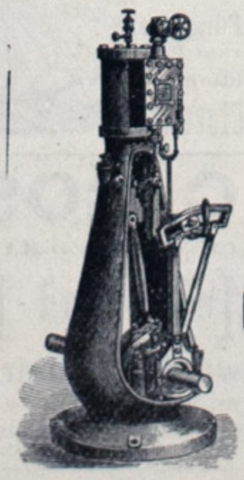

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